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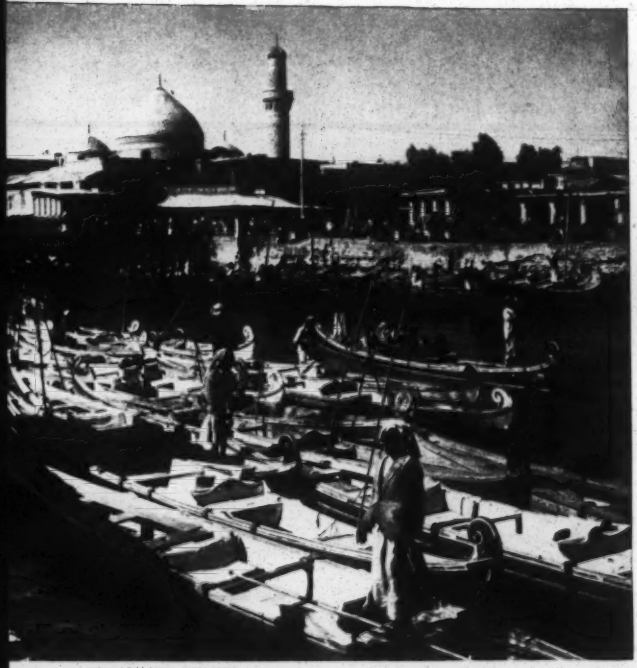
► Iraq, Keystone of the Near East
► Coffee Flows to the United States
► Nature's Little Deceptions
► The Spell of Ireland
► Death Valley

DEATH VALLEY WATER TANK is no mirage. Where forty-niners struggled to cross parched wastes, modern tourists drive in comfort, exploring desert wonders (page 130)

NATIONAL GEOGRAPHIC PHOTOGRAPHER J. BAYLOR ROBERTS

UMI



MAYNARD OWEN WILLIAMS

SINDBAD may have poled similar *belems* past domes, minarets of his native Basra

northwest to southeast, embracing an alluvial basin where farmers grow more grain than Iraq needs and where straight-lined rows of palms produce four fifths of the world's dates. Here, they say, is the site of the Garden of Eden. Certainly the region is one of the cradles of civilization, possibly the oldest of all.

Along these rivers, early Mesopotamian cultures gave the world the wheel, the arch, and the art of writing. Ancients developed law, literature, mathematics, and invented the straight-edged razor. On the banks of the Tigris, 7,000 years ago, hunters became farmers and built a village—the earliest yet unearthed. Biblical cities rose—Nineveh and Babylon, where Nebuchadnezzar built the Hanging Gardens, one of the Seven Wonders of the World, to please his queen.

Before Mongols stormed Iraq to destroy villages, fields, and irrigation channels, the country supported perhaps as many as 30,000,000 people. Today's population is about 5,000,000. But as oil for the world pulses through pipelines from Kirkuk in the north and Rumaila near the Persian Gulf, a fat income (about $200,000,000 in 1956) pours in. Seventy per cent of this money goes into Iraq's development fund to be spent on flood control dams, new irrigation canals, and other investments for the future.

But for the present, the weathered, bearded herdsman and date grower finds life a struggle against poverty, poor soil, harsh climate, disease, and illiteracy. Long-range improvements depend on years of peace. An Arab nation among turbulent Arab neighbors, Iraq tries to keep a door of friendship open to the West. Seeking stability, it has stood like a keystone amid forces of unrest.—E.P.

CHICAGO NAT. HIST. MUSEUM, MRS. A. L. FISHER

ANCIENT ANCESTORS of these Iraqi bricklayers used similar materials and methods to build temples and palaces of old Mesopotamia

UMI

LAWRENCE GRISWOLD

In Aladdin's day, scholars strolled Baghdad streets where car dealers now display late models

Iraq . . . NEAR EAST KEYSTONE STATE

TAKE a small country of flinty deserts and bleak mountains, add gushing oil wells, and you have a typical nation of the Near East. Now stir in a new ingredient—a policy of using oil income to harness rivers, improve soil, build schools, hospitals, industries. The final mixture is one of the key nations of the Moslem world—Iraq.

It was carved from the Ottoman Empire after World War I, a country not as large as California lying deep in the heart of Islam. The very name of Baghdad (the capital) breathes the romance of the East—even though today its modern streets glitter with neon advertisements of American products (above). Aladdin is said to have found his magic lamp in a cave beneath what is now a Baghdad boulevard.

Iraq is almost landlocked. Angular borders leap across deserts to separate it from Kuwait and Saudi Arabia to the south, Jordan and Syria to the west. Peaks of the Kurdish Mountains, some topping 12,000 feet, seal off its northern tip from Turkey. Eastward lies its neighbor, Iran. Only a southeastern protuberance touches the Persian Gulf, like a bather's toe testing the water. Along this corridor flows the broad Shatt al 'Arab, leading ships 80 miles inland to Basra, Iraq's chief port. The Shatt al 'Arab is formed from the confluence of two rivers—the Tigris and Euphrates—which nourished early man and, despite oil, remain Iraq's greatest hope for the future.

Both streams rise in the Kurdish Mountains, then wind through Iraq from

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STIRRING COFFEE with a rake, he turns a terraceful of beans to dry in sun

straight. Forty per cent of Westerners, compared to only 12 per cent in the East, delight in black coffee.

To please their males, Uganda wives concoct a drink of banana and coffee. They eat raw coffee berries, too. Frenchmen still stroll to sidewalk cafés to combine a cup of café au lait—coffee mixed with hot milk—with pleasant gossip.

Iced coffee finds increasing converts. Algerians originated this drink with a sweetened cold coffee mixture called *mazagran*. Southern Frenchmen dilute it with seltzer water. Down in Ethiopia, tribesmen make rations of ground coffee—high in protein—rolled with fat.

In thousands of American offices pots drip or percolate cheerfully at morning and afternoon coffee breaks encouraged to increase efficiency. According to legend the idea goes back to an Arabian who watched goats nibble coffee beans then gambol with restored energy. Coffee drinking spread through the Near East. Turkish soldiers passed the refreshing habit to Eastern Europe. In the 16th century, an edict in Constantinople banned coffeehouses. Coffee "speakeasies" sprang up. Two hundred years later, attitudes mellowed. Upon marriage, the Turk had to promise to keep his wife in coffee. Frederick the Great tried to limit coffee to rich Prussians.

When incensed Bostonians hurled tea overboard from a British ship in 1773, they inadvertently boosted coffee as a favorite American beverage. Boston townsmen patronized the famed Green Dragon coffeehouse, a breeding ground of the Revolution. Sippers and plotters included John Adams and Paul Revere. English coffeehouses heard classic duels of wits among Johnson, Burke, Goldsmith, and Boswell. In one such emporium the word "tip"—To Insure Promptness—originated.—S.H.

125

LUIS MARDEN, NGS

COFFEE TASTER tests quality for commercial buyers. This expert sips 600 cups a day. A tap with his spoon indicates a faulty lot

UMI

COFFEE

America's breakfast beverage is Brazil's bread and butter

HOWEVER tense the times, coffee is a commodity that makes the whole world kin. Spin a globe. Almost anywhere you look, Joe or Gonzales, Abdul, Johanssen or José lifts a cup. Of all, Americans bend the most serious elbow. Last year our coffee imports totaled a staggering $1,356,292,000. This year Americans responded to "a cup of coffee?" by consuming about 15 pounds per person and downing a total of more than 40 billion cups.

The American coffee habit affects the world. In 1955 we imported more than a billion pounds from Brazil, more than half a billion from Colombia, 159,000,000 pounds from Mexico, lesser millions of pounds from Arabian Peninsula states, Angola, British East Africa, and Indonesia. All told, 2,598,377,000 pounds of berries to build this "most grateful lubricant of the human machine" arrived —to be paid for by United States exports in high demand.

Ask a restaurateur or housewife in New Orleans how to make coffee. They'll answer: "Black, strong, often with chicory. And thick. It's no good unless the spoon will stand up straight in it." Southerners, generally favor a much darker roast than New Englanders. Out West they want a light roast, though more acid. And they like their coffee

BRAZILIAN GOV'T PHOTOGRAPHS

Brazilian girl winnows beans, tossing them in age-old fashion

H. H. SHELDON

OVERLOOKED as part of sun-dappled earth, a fawn waits for mother to return

E. P. WARREN, U. S. FISH AND WILDLIFE

AS DANGER LURKS near by, the ptarmigan matches white winter plumage with snow (above). In summer, the same bird (below) turns reddish-brown and black, matching earth and leaves.

W. P. TAYLOR, U. S. FISH AND WILDLIFE

as well as fishes. Its principle was used in wartime for camouflaging guns and battleships.

Speckles and streaks play parts in camouflage. Sunrays drop into woodlands and thickets forming stripes and spots of light. A young fawn, lying close to the ground, is nearly invisible. Unless he moves, his coat blends with earth and leaves and his white spots resemble specks of sunlight. When he's a few months old and able to bound away at a danger sign, the fawn loses his spots.

Snowshoe rabbits change color with seasons, molting from summer's brown to winter's white. So does the ptarmigan (left), whose winter plumage blends with snow. But the ptarmigan instinctively fears its own shadow, a sure giveaway against the white background. So it flattens itself deep into the snow surface.

Many animals and birds have white underpinnings. One theory calls this nature's way of neutralizing the shadowy darkness of their undersides. One experimenter suspended an object, uniformly gray, against a gray background. Top lighting shaded the object's bottom, making it stand out. But when the bottom was stippled white, like the chest and belly of a squirrel, a white-tailed deer, a thrush, it blended into the backdrop.

Wild creatures often put on acts to avoid enemies. When danger threatens a bittern, a wading bird, it stretches its long neck skyward. The bird seems to grow out of the swamp, its head just another reed. The opossum plays dead with enthusiastic realism.

On many birds splashes of bright color show only in flight. Darting overhead, the flicker flashes a white rump to lead pursuers a merry chase. The frolic ends when the flicker lights, folds its flag, and melts into the surroundings.

Some creatures can't be bothered with camouflage. Witness the skunk. He wants his white-striped coat quickly spotted, for he knows that once seen he'll have the road to himself.—

UMI

CAPT. M. L. ASHTON

VANISHING WILDLIFE

NOW YOU SEE IT . . . NOW YOU DON'T

E. P. HADDON

PRETTY snappily turned out, the zebra. At first glance you'd think he'd broken all rules of color camouflage. He flaunts convict stripes in the sun while the tawny lion that stalks him blends into sunburned grass. Yet seen at a distance, the zebra's markings run together as one drab color. When the animal grazes at night his black-and-white coat becomes just another patch of moonlit bush, streaked by shadows.

Some forms of wildlife are masters in the art of deceiving the eye. A bird's sharpest glance could miss finding dinner on the tree trunk, right. One of the twin "thorns" is a tasty insect, a Brazilian bug that resembles a piece of tree. In our own country there are tree frogs that look like bits of bark, and butterflies that fold their wings to become exactly like another leaf. Have you ever seen a twig walk casually away from a branch? Walking stick insects, green and brown, inhabit trees in America and other parts of the world. Because of their size, insects have an advantage in this trick of camouflage. But some owls, too, perch prim and silent in the crotch of a tree. Their color and markings make them look like burls, or the stubs of broken branches.

L. G. SAUNDERS

Owls need some sort of camouflage to protect them during daylight hours when they roost, gathering strength for the night's hunting. Ground-dwelling birds must have protection from predators while they sit on nests. A fox, hungrily searching for an easy meal, might glimpse the splash of white on the bobwhite's head (above), yet pass him by. Varied color pattern tends to break up the bird's outline into meaningless fragments like a scattered jigsaw puzzle. A patch of outstanding color merely attracts the enemy's eye to a part, instead of to the bird's whole shape. While not invisible, its identity is harder to make out than if it were of a solid color. This "disruptive" coloring is characteristic of many fauna types,

are simple ones. Except in larger cities like Dublin or Cork, there are few movie theaters or other amusements. Life centers around the family and farm. The Irish have time to enjoy each other, to be courteous to strangers. Neighbors gather to exchange news while tea brews over a ruddy turf fire.

Vast expanses of peat bog cover one seventh of Ireland, furnishing valuable fuel. The blackish bogs formed as millions of tons of rain submerged layer after layer of decaying grasses, rushes, and moss. Blocks of peat, called "turf" by the Irish, are cut from bogs, stacked and dried. Today, as throughout Ireland's history, piles of turf against the sides of small thatched cottages mean warmth for chill evenings, fire for cooking. The fragrant smell of burning turf is as characteristic of Ireland as mists and folklore.

Nearly all Ireland's inhabitants speak English today, but the native tongue is Gaelic, a soft, musical language. Signs appear in both languages, and the government encourages the use of the original tongue. Along Ireland's western and southern coasts there are small areas where only Gaelic is spoken.

Visitors delight in Ireland's southern counties of Cork and Kerry. In Kerry, a winding mountain stream connects the famous lakes of Killarney, flecked with small islands and nestled under the peaks of 2000- to 4000-foot mountains. Cork, soft of climate and luxuriously green, is the center of Ireland's dairy country. Five miles from Cork City stands the massive square keep of Blarney Castle. The famous "Blarney stone" embedded in its west battlement traditionally endows those who kiss it with gifts of eloquence and persuasive powers. Because of the stone's awkward position, it's a feat of gymnastics to reach it (above).

Relics of Ireland's past crop up throughout the country in austere castles and pre-Christian stone structures. Dublin, capital of the Irish Republic, has been a center of maritime trade for more than a thousand years. But two things won't change with history—Ireland's greenery and its leprechauns.—J.A.

DUBLIN EXPANDS industry where early Norse invaders built a walled city

THREE LIONS

HOWELL WALKER, NATIONAL GEOGRAPHIC STAFF

Old stone walls lace the landscape in Galway

The Spell of Ireland

"LEAVE a bit of food outside for the wee folk" if you want to keep trouble from the door. This might be heard in real earnest in Ireland. Ask any Irishman; the country is still "peopled" by leprechauns and worried by haunted hills. Perhaps across the sea in England they've forgotten to believe in such things, but not on the Emerald Isle.

Ireland still seems to cast spells over those who visit it. Names like Killarney and Innisfree, Galway, Cork, and Kerry sing to the ear and stir the imaginations of people the world over. It rains a lot and the counties are shrouded in gray sea mist during much of the year. But moisture guards a year-round greenery. The Irish people say it's worth all the bad weather to see the "auld sod" sparkle when the sun shines.

Ireland's population is not much larger than that of greater Boston. Most people live from the land, raising grains or cattle. Such root vegetables as potatoes, sugar beets, and turnips fare especially well in the rainy climate. Like England and France, the countryside has been settled and farmed for thousands of years. Towns are far apart and few in number. In the country, where old dwellings line a network of lanes (above) the pattern of life changes slowly.

Life is seldom easy for the Irish. Hard work earns few luxuries, and pleasures

THREE LIONS

Help is needed to kiss the Blarney stone

Large rocks move, leave tracks, on level Valley lake bed

The region has a beauty "so unearthly that it seems to belong to some other planet; to a world still in the making," according to one sight-seer. Death Valley's making unfolds in formations of all the great divisions of geologic time. Scientists think the valley was born when a massive block of rock sank, eons ago, to form a deep basin. This depression squeezed lava upward through lines of fracture. Ubehebe Crater, a half mile across, 800 feet deep, spouted in eruption some 1,000 to 2,000 years ago. Other craters are much younger. And in canyons and on cliffs nature's forces are still at work.

Strange lights, violet, amethyst, lilac, and purple, shift as the sun rises or sets. Beauty contains no calories; so visitors are surprised to learn that Indians once lived in the Valley. They existed by eating anything they could catch. Or by devouring some of the 615 species of plants that have been identified. Among them are desert holly, saltbush, a dozen kinds of cacti, the rare desert bear-poppy, mariposas, lupines, and daleas. Sunflowers dutifully turn to their god. Primroses splash color, and poppy fields nestle in the vast basin.

No life in the valley? Twenty-six species of mammals have been seen. The desert kit fox slinks aside for the desert coyote and Bailey bobcat. Rabbits, antelope ground squirrel, and kangaroo rats hop through mesquite. Some 300 Nelson bighorn sheep range the rocky slopes and gorges. They compete precariously for a livelihood with wild burros, descendants of beasts that bore prospector's burdens.

Above such earthlings wing more than 220 species of birds, 14 of them native to the Valley. The large black African raven most often presents itself to human visitors. Snakes, thanks to hot summers, are rare. Temperature of 134° F. in the shade was a world record until 1922, when Azizia, Libya, broke it with 136.4° F.

LIKE A SPANISH GRANDEE, Death Valley Scotty lolled in luxury in his fabulous castle

PHOTOGRAPHS BY NATIONAL GEOGRAPHIC PHOTOGRAPHER J. BAYLOR ROBERTS

UNION PACIFIC RAILROAD

DEATH VALLEY

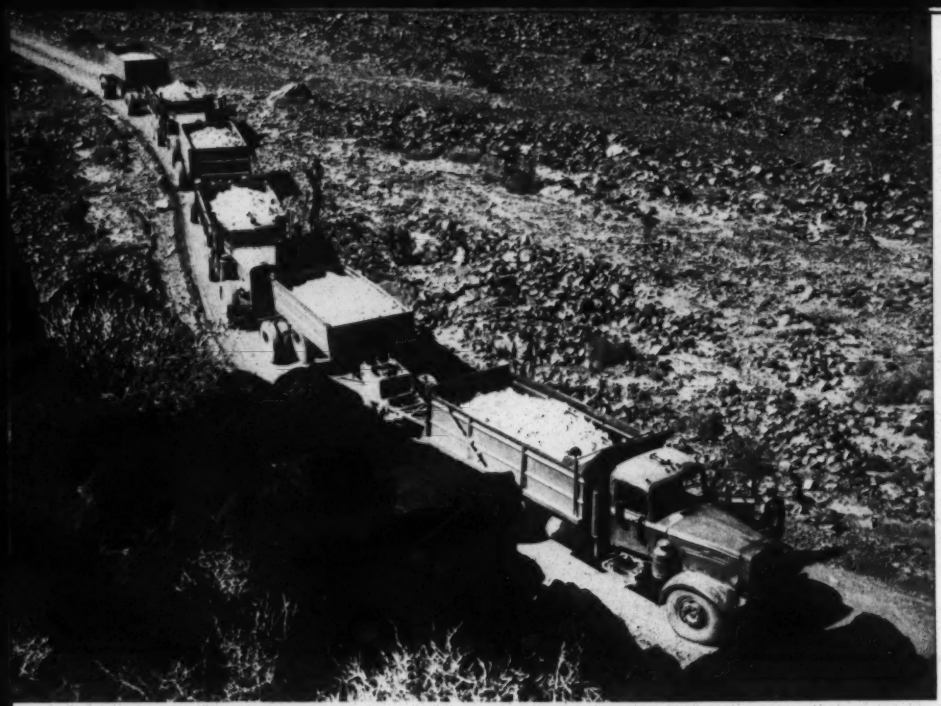
Second in a series on United States valleys

CENTURIES ago, Panamint Indians beheld the unearthly, heat-seared Valley and muttered "Tomesha"—"ground afire." The weird landscape wore the name until a group of forty-niners blundered into it while seeking a short cut to California's gold fields. The mountain-walled desolation, seen above from Dantes View, locked them in like a prison. After dreadful suffering, rescue came. From a mountain they looked back and mumbled the region's lasting name: Death Valley.

The fiery trench, 140 miles long and four to 16 miles wide, slices through a desert region east of the Sierra Nevada in eastern California and sprawls into southwestern Nevada. Its topography takes strange whims. Some 550 square miles are below sea level—as low as 282 feet around Badwater, the deepest-sunk land in the Western Hemisphere. Yet less than 80 miles distant Mt. Whitney jabs 14,495 feet toward the sky, the highest point in the 48 States. Awesome salt flats tell scientists that here was once an inland sea. Stark, sun-stained Panamint Range on the west looks across to precipitous Amargosa (Spanish for bitter) Range.

Today's traveler needs do little more than check the radiator before venturing into Death Valley (see cover). Motorists enjoy good roads where emigrant trains mired in the sand. Prepared campgrounds and modern hostelries make overnight visitors comfortable. Much of the credit goes to the National Park Service, which has administered Death Valley since 1933 when it became a national monument. Last year 342,000 people marveled at the Valley's sights.

Large rocks move, leave tracks, on level Valley lake bed



INSTEAD OF THE 20-MULE TEAM, thundering diesels transport Death Valley's minerals

Pioneer tragedies and hopes come down in the Valley's place names—Last Chance Canyon, Funeral Range, Lost Wagons, Lost Valley, Badwater.

Unlike many deserts, Death Valley does have water. Had the pioneer sufferers dug down a few feet in many areas their thirst would have ended. Nowhere, authorities say, are water veins many miles apart.

The strangeness of a place where a nation's highest and lowest spots can be seen in one glance, and where stones mysteriously move across a level surface (p. 131), catches imaginations. But Death Valley offers nothing more surprising than Scotty's Castle, an enormous Spanish-Moorish palace where organ music greets tourists. Scotty was a grizzled cowboy and prospector. A millionaire friend indulged him with the residence, complete with imported palms and a swimming pool.—S.H.

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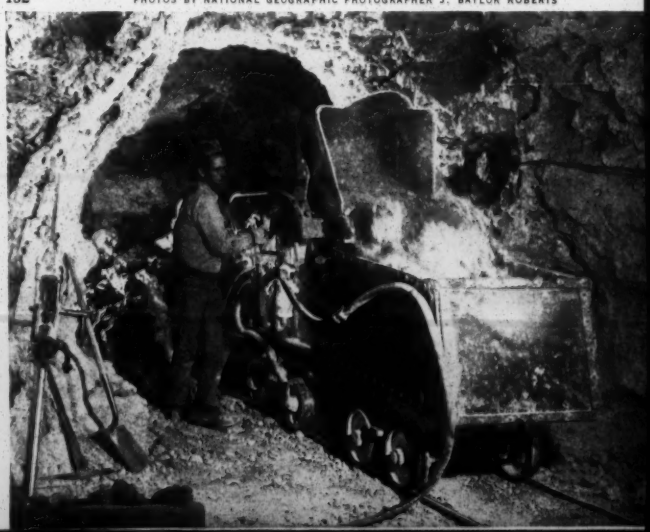

CORKSCREW CANYON yields another load of borax for antiseptics, cleansing